

REMARKS

Claims 1 through 18 remain in this application.

Claim Rejections under 35 U.S.C. 103(a)

The Examiner rejected claims 1, 3-7, 9-13 and 15-18 under 35 U.S.C. 103 as being unpatentable over U.S. Patent No. 6,654,341 to Chi et al. (the Chi reference) in view of U.S. Patent No. 6,616,350 to de Boer et al. (the De Boer reference). However, neither the Chi reference nor the de Boer reference, either alone or in combination, teach or suggest the requirements of the claims.

Independent Claim 1 and dependent claims 2 through 6

Independent Claim 1 states, “responsive to an indicated span switch on a first ring, wherein the span switch is not between the first and second network elements, passing control information for said first ring over said shared protection channel while indicating availability of the shared protection channel to other rings; and responsive to an indication that the shared protection channel is needed to pass communications traffic for a second ring, ceasing to pass the control information for said first ring over said shared protection channel and indicating the non-availability of the shared protection channel to rings other than said second ring.” As explained at paragraphs 38 and 39 with respect to Figures 6a and 6b, when a span switch has occurred on a Ring (such as Ring3 in Figure 6a), the shared protection channel 22ab is coupled between the protection channels of Ring3 to pass control information for Ring3. However NR signals are still output to the other rings Ring1 and Ring2 to indicate that if necessary (e.g. due to a ring switch or other failure), the shared protection channel is still available to pass communications traffic.

First, the Chi reference fails to teach the requirement of, “responsive to an indicated span switch on a first ring, wherein the span switch is not between the first and second network elements, passing control information for said first ring over said shared protection channel while indicating availability of the shared protection channel to other rings.” The Chi reference only describes that traffic is rerouted over the shared protection channel during a ring switch at column 6, lines 14 through 18. It specifically states that the traffic is rerouted through switches

1210 and 1240 and a K-byte ring switch signal is supplied to the switches. Thus, it only discloses a ring switch and thus necessarily does not disclose that control information is passed over the shared protection channel during a span switch. Furthermore, it does not disclose indicating availability of the shared protection channel to other rings when control information is being passed over the shared protection channel in response to a span switch. In fact, the Chi reference teaches away from this type of prioritization by stating a first come, first serve basis at column 5, line 65 through column 6, line 1.

The Office Action states on Page 3, second paragraph that, “When a span switch request on a first ring occurs, then only the control and traffic information of ring 1 will pass through the protection line after the span switch occurs. Chi further discloses in this case that the availability of the shared protection channel to rings other than the first ring is distributed by the shared network elements. See column 6, lines 28 through 32.” The Chi reference includes no such description of what information is passed through the protection line after a span switch occurs or that the availability of the shared protection channel to rings other than the first ring is distributed by the shared network elements. As stated above, the Chi reference only describes a ring switch at column 6, lines 9 through 32. The cited passage of column 6, lines 28 through 32 of the Chi reference is describing that K-byte lockout protection span (LP-S) data is passed in response to a ring switch, at column 6, lines 25 through 28. Thus, the Chi reference is only describing a ring switch and that a lockout is passed in response to a ring switch.

The Office Action further states on page 3, last paragraph to page 4, first paragraph that, “Chi discloses how requests are handled after a span switch is executed on a shared protection line. See Column 5, lines 60-64.” Examining this citation at column 5, lines 60 through 64, the Chi reference states, “The span receiving the line information may do nothing if higher priority conditions exist, or may initiate a line switch, ring switch or route change.” This passage only describes various options in response to monitoring K-byte information. There is no description of performing a span switch and passing control information for a first ring with the span switch over the shared protection channel while indicating availability of the shared protection channel to other rings. As stated above, the only process described in the Chi reference is that in response to a ring switch, then a K-byte lockout protection span (LP-S) data is passed, at column 6, lines 25 through 28.

Second, the Chi reference fails to teach the requirement of, “responsive to an indication that the shared protection channel is needed to pass communications traffic for a second ring, ceasing to pass the control information for said first ring over said shared protection channel and indicating the non-availability of the shared protection channel to rings other than said second ring.” As shown above, the Chi reference only describes a ring switch. There is no description of what information is passed in response to a span switch and what occurs with a subsequent ring switch. Without any other descriptions of what occurs in response to a span switch prior to a ring switch, the Chi reference teaches away from the present invention by stating, “When rings share a protection line, however, the protection line is allocated for use on a first-come, first-serve basis.” Thus, the only teaching that can be gleaned or suggested by the Chi reference is that there are no preemptions by one ring or another ring for use of the protection line.

The de Boer reference fails to add to the teaching of claim 1. The de Boer reference nowhere even discloses a shared protection span or how to control signaling over a shared protection span. Thus, it can not add to the teaching of the Chi reference to disclose or suggest the requirement of claim 1, *inter alia*, of: “responsive to an indicated span switch on a first ring, wherein the span switch is not between the first and second network elements, passing control information for said first ring over said shared protection channel while indicating availability of the shared protection channel to other rings.”

Independent Claim 7 and dependent claims 8 through 12

Independent claim 1 states, “first and second shared protection network elements supporting communications traffic over a working channels for a predetermined set of said rings using a shared protection channel, said first and second shared protection network elements including control circuitry for: passing control information for a first ring over said shared protection channel while indicating availability of the shared protection channel to rings other than said first ring, responsive to an indicated span switch on a first ring; and ceasing to pass the control information for said first ring over said shared protection channel, responsive to an indication that the shared protection channel is needed to pass communications traffic for a second ring; and circuitry for indicating the non-availability of the shared protection channel to

rings other than said second ring, responsive to an indication that the shared protection channel is needed to pass communications traffic for a second ring.

The Chi reference fails to disclose, *inter alia*, the requirement of, “passing control information for a first ring over said shared protection channel while indicating availability of the shared protection channel to rings other than said first ring, responsive to an indicated span switch on a first ring.” The Chi reference only describes that traffic is rerouted over the shared protection channel during a ring switch at column 6, lines 14 through 18. It specifically states that the traffic is rerouted through switches 1210 and 1240. Thus, it does not disclose that control information is passed over the shared protection channel during a span switch. Furthermore, it does not disclose indicating availability of the shared protection channel to other rings when control information is being passed over the shared protection channel during a span switch. In fact, the Chi reference teaches away from this type of prioritization by stating a first come, first serve basis at column 5, lines 3 through 5 and at column 5, line 65 through column 6, line 1.

The Office Action states on page 3, last paragraph to page 4, first paragraph that, “Chi discloses how requests are handled after a span switch is executed on a shared protection line. See Column 5, lines 60-64.” Examining this citation at column 5, lines 60 through 64, the Chi reference states, “The span receiving the line information may do nothing if higher priority conditions exist, or may initiate a line switch, ring switch or route change.” This passage only describes various options in response to monitoring K-byte information. There is no description of performing a span switch and passing control information for a first ring with the span switch over the shared protection channel while indicating availability of the shared protection channel to other rings. As stated above, the only process described in the Chi reference is that in response to a ring switch, then a K-byte lockout protection span (LP-S) data is passed, at column 6, lines 25 through 28. This description along with the statement of a first come, first serve basis at column 5, lines 3 through 5, fails to teach or suggest the requirements of claim 7.

The de Boer reference fails to add to the teaching of claim 7. The de Boer reference nowhere even discloses a shared protection span or how to control signaling over a shared protection span. Thus, it can not add to the teaching of the Chi reference to disclose or suggest

the requirement of claim 7, *inter alia*, of: “passing control information for a first ring over said shared protection channel while indicating availability of the shared protection channel to rings other than said first ring, responsive to an indicated span switch on a first ring.”

Independent Claim 13 and dependent claims 14 through 18

Claim 13 states, “circuitry for passing control information for a first ring over said shared protection channel while indicating availability of the shared protection channel to other rings, responsive to an indicated span switch on a first ring; circuitry for ceasing to pass the control information for said first ring over said shared protection channel, responsive to an indication that the shared protection channel is needed to pass communications traffic for a second ring; and circuitry for indicating the non-availability of the shared protection channel to rings other than said second ring, responsive to an indication that the shared protection channel is needed to pass communications traffic for a second ring.”

The Chi reference fails to disclose the requirement in claim 13, *inter alia*, of, “circuitry for passing control information for a first ring over said shared protection channel while indicating availability of the shared protection channel to other rings, responsive to an indicated span switch on a first ring.” The Chi reference only describes that traffic is rerouted over the shared protection channel during a ring switch at column 6, lines 14 through 18. It specifically states that the traffic is rerouted through switches 1210 and 1240. Thus, it does not disclose that control information is passed over the shared protection channel during a span switch. Furthermore, it does not disclose indicating availability of the shared protection channel to other rings when control information is being passed over the shared protection channel in response to a span switch. The Chi reference teaches away from this type of prioritization by stating a first come, first serve basis at column 5, line 65 through column 6, line 1.

The de Boer reference fails to add to the teaching of claim 13. The de Boer reference nowhere even discloses a shared protection span or how to control signaling over a shared protection span. Thus, it can not add to the teaching of the Chi reference to disclose or suggest the requirement of claim 13, *inter alia*, of: “circuitry for passing control information for a first

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ring over said shared protection channel while indicating availability of the shared protection channel to other rings, responsive to an indicated span switch on a first ring.”

For the above reasons, the foregoing amendment places the Application in condition for allowance. Therefore, it is respectfully requested that the rejection of the claims be withdrawn and full allowance granted. Should the Examiner have any further comments or suggestions, please contact Jessica Smith at (972) 477-9109.

Respectfully submitted,

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